

Notice of Allowability

Application No.

10/027,716

Examiner

Michael Y. Won

Applicant(s)

LUND ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment After Final filed March 27, 2007 and Interview conducted on April 3, 2007.
2. ☒ The allowed claim(s) is/are 1,3,5,7-9,11,14,16,18 and 19 (re-numbered 1-11).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date Attached.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

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DETAILED ACTION

1. This action is in response to the Amendment after Final filed March 27, 2007.
2. Claims 1, 8, 11, and 14 have been amended and claims 2, 12, and 15 have been cancelled.
3. Claims 1, 3-5, 7-9, 11, 14, and 16-19 have been examined and are pending with this action.

EXAMINER'S AMENDMENT:

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
5. Authorization for this examiner's amendment was given in a telephone interview with John F. Kacvinsky (Reg. No. 40,040) on April 3, 2007.
6. The application has been amended as follows:
 1. **(Currently Amended)** A method to configure a network device, comprising:

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receiving a request at a DSL access module (DSLAM) to configure a first permanent virtual circuit (PVC) between a digital subscriber line (DSL) device and ~~a DSL access module (DSLAM)~~ said DSLAM, said DSL device having a virtual circuit (VC) table with multiple probe values, wherein said probe value represents a virtual circuit; and

automatically configuring said first PVC using a list of probe values from said VC table sent with test packets to probe for configuration information for said first PVC, and using said configuration information to configure said first PVC, wherein said probe values and said configuration information comprise a virtual channel identifier (VCI) and a virtual path identifier (VPI);

wherein said automatically configuring comprises:

sending test packets to said DSLAM using said probe values;

receiving a response packet to one of said test packets;

retrieving said configuration information from said response packet;

and

configuring said PVC using said retrieved configuration information;

and

further disabling each virtual circuit that does not receive a response packet.

3. **(Currently Amended)** The method of ~~claim 2~~ claim 1, wherein for each probe value in said ~~probe~~ VC table said sending comprises:

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retrieving a probe value from said list of probe values, ~~wherein said probe value represents a virtual circuit;~~

enabling said virtual circuit; and

sending a test packet over said virtual circuit.

4. (Currently Cancelled)

7. (Currently Amended) The method of claim 1, further comprising:

determining that a terminating condition has occurred prior to automatically configuring said first PVC; sending a message that said first PVC was not configured to a user; and receiving said configuration information for said first PVC from a user.

8. (Currently Amended) A system to configure a network device, comprising:

a digital subscriber line (DSL) customer premise equipment (CPE), said DSL CPE having a virtual circuit (VC) table with multiple probe values, wherein said probe value represents a virtual circuit;

a DSL access module (DSLAM) connected to said DSL CPE; and

a DSL probing module to use a said list of probe values from said VC table sent with test packets to said (DSLAM) to probe for configuration information for use in automatically configuring a permanent virtual circuit (PVC) between said DSL CPE and said DSLAM, wherein said probe values and said

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configuration information comprise a virtual channel identifier (VCI) and a virtual path identifier (VPI);

wherein said automatically configuring comprises:

sending test packets to said DSLAM using said probe values;

receiving a response packet to one of said test packets;

retrieving said configuration information from said response packet;

and

configuring said PVC using said retrieved configuration information

and

further disabling each virtual circuit that does not receive a

response packet.

11. **(Currently Amended)** A probing module for a network device,
comprising:

an event management module which accesses a virtual circuit (VC) table that includes a list of probe values, wherein said probe value represents a virtual circuit, to automatically send test packets using said probe values from a digital subscriber line (DSL) device to a DSL access module (DSLAM);

a detection module to detect a packet received in response to at least one of said test packets and to disable each virtual circuit that does not receive a response packet;

an extraction module to retrieve configuration information from said received packet; and

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a configuration module to configure a permanent virtual connection between said DSL and said DSLAM using said configuration information, wherein said probe values and said configuration information comprise a virtual channel identifier (VCI) and a virtual path identifier (VPI).

14. (Currently Amended) An article comprising:

a storage medium;

said storage medium including stored instructions that, when executed by a processor, result in configuring a network device by receiving a request at a DSL access module (DSLAM) to configure a first permanent virtual circuit (PVC) between a digital subscriber line (DSL) device and ~~a DSL access module~~ said (DSLAM), said DSL device having a virtual circuit (VC) table with multiple probe values, wherein said probe value represents a virtual circuit, automatically configuring said first PVC using a list of probe values from said VC table sent with test packets to probe for configuration information for said first PVC, and using said configuration information to configure said first PVC, wherein said probe values and said configuration information comprise a virtual channel identifier (VCI) and a virtual path identifier (VPI), said automatically configuring said first PVC comprising sending test packets to said DSLAM using said probe values, receiving a response packet to one of said test packets, retrieving said configuration information from said response packet, and configuring said PVC using said retrieved configuration information and further disabling each virtual circuit that does not receive a response packet.

16. **(Currently Amended)** The article of ~~claim 15~~ claim 14, wherein the stored instructions, when executed by a processor, result in sending test packets, for each probe value in said ~~probe~~ VC table, by retrieving a probe value from said list of probe values, ~~wherein said probe value represents a virtual circuit,~~ enabling said virtual circuit, and sending a test packet over said virtual circuit.

17. **(Currently Cancelled)**

19. **(Currently Amended)** The article of claim 14, wherein the stored instructions, when executed by a processor, further result in determining that a terminating condition has occurred prior to automatically configuring said ~~first~~ . PVC, sending a message that said ~~first~~ PVC was not configured to a user, and receiving said configuration information for said ~~first~~ PVC from a user.

Allowable Subject Matter

7. Claims 1, 3, 5, 7-9, 11, 14, 16, 18, and 19 are allowable over prior art of record and in light of Examiner's Amendments and arguments presented in the After Final Amendment filed March 27, 2007.

8. The following is an examiner's statement of reasons for allowance:

The prior art of record does not disclose, teach, or suggest neither singly nor in combination the claimed limitation of "said DSL device having a virtual

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circuit (VC) table with multiple probe values, wherein said probe value represents a virtual circuit; and automatically configuring said PVC using a list of probe values from said VC table sent with test packets to probe for configuration information for said PVC, and using said configuration information to configure said PVC" as recited in independent claim 1 and similarly recited in independent claims 8, 11, and 14.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

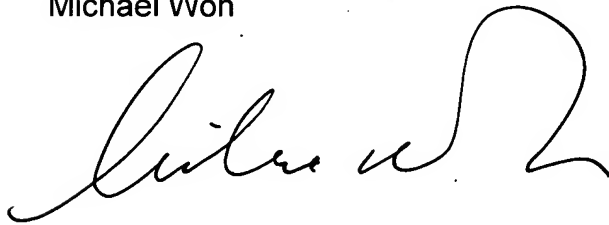
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Y. Won whose telephone number is 571-272-3993. The examiner can normally be reached on M-Th: 7AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael Won

A handwritten signature in black ink, appearing to read 'Michael Won', with a large, stylized flourish at the end.

April 3, 2007